

SOLID WASTE DISPOSAL AND ITS IMPACT ON PROPERTY VALUES AND AMENITIES: AN ASSESSMENT OF OPEN LAND FILLS

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Abstract

We can dispose of solid waste in landfills by incineration, composting, pyrolysis, and vermicomposting. Landfilling turns out to be the most favored method. Property values, primarily residential property values, are affected by the quality of management and final disposal of solid waste. Property prices change either with the quality of waste disposal or the distance from a dumpsite.

Keywords: Landfills, Open And Controlled Dumpsites, Sanitary Landfills, Property Values.

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INTRODUCTION

Management of Urban Solid Waste is a vital policy issue for developing countries, given the rapid urbanization and population pressure. These countries have the most significant urban population. World Health Organization defines Solid waste as materials from domestic, trade, commercial, industrial, agricultural, mining activities, and public services (WHO, 1976). Environmental problems occur due to the system's inability to account for the unique services provided by the environment. The ability to take in and absorb all forms of waste as a waste sink is such a service. David Pearce observes that Solid waste pollution is an outcome of an excess load of highly complex waste troubling the ecosystem and the carrying capacity of the natural environment (David Pearce, 2000). Solid waste disposal is the ultimate step in the solid waste management process, apart from intermediate steps like generation, storage, collection, transfer, and processing (Guy Garrod et al., 1997). A wide variety of solid refuse from households (bio-degradable and non-biodegradable), medical, construction, manufacturing, agricultural, mining, hazardous, and mining wastes make management a big challenge.

SOLID WASTE DISPOSAL METHODS

Worldwide, the local governments dispose of solid waste using different methods like landfilling, incineration, composting, pyrolysis, and vermicomposting (Ma Lourde Rebullida 2000). landfilling is the most popular and preferred method. Landfills are of three categories 1) **open dumpsites**- dumping of solid wastes in an open area without any plan and thought about environment and health standards 2) **controlled dumpsites**- have minimum given quality of location operation and 3) **sanitary landfills** -have a strict design, construction, operation, and maintenance with engineering control over vital possible environmental effects from working of the facility (The Ecological Solid Waste Management Act 2000). Leachate formation and toxic landfill gas cause severe health and environmental risks like water and air pollution. Disamenity effects (pests, flies, vermin) visual impacts are the other issues related to landfills. (Lee and Jones-Lee 1993, UNEP 1999, CPCB 2000). Faulty solid waste disposal causes pollution of all types. Solid waste pollution creates health and environmental issues due to contamination of

surface and groundwater, disamenity effects, and economic impacts like reducing land price or property value.

LANDFILLS AND PROPERTY VALUES

A critical economic impact of solid waste falls upon residential property prices. It is affected by road connectivity, the availability of basic infrastructure, and accessibility. Interestingly, residential property values are affected by solid waste management (Ogedengbe et al. 2006). While using the hedonic method, Havlicek et al. (1971) conducted a pioneering study in this aspect. He examined the impact of five landfills on property values in Fort Wayne, Indiana, the U.S.A, by a survey of 182 house sales prices during the period 1962-70 near the landfill. House prices increased by \$9800 per mile from the vicinity of the landfill. A study by Havlicek (1985) at the same site gave a 5% rise. The water contamination due to a hazardous waste dump in Pleasant Plains, New Jersey, the U.S.A. using the hedonic method done by Gamble et al. (1982), observed that the price of houses sold before and after 1974 gave a 10% fall in house prices for 1.5 –2.25 miles. Another study by Baker (1982) shows a 21% - 0.55% decrease in house prices with a per-mile increase of 0.5 miles to 1.25 miles. The unpleasant odor from uncollected garbage and the landfill site, and the dirty surroundings are perfect for breeding mosquitoes, insects, and flies. The smoke and poisonous gases give rise to health hazards. A house or a dwelling unit combines a housing structure, access to basic facilities, and a good environment. (Kiel, 2006). The provision of housing and neighborhood facilities and amenity quality determine the variability in land values in a specific spot. The primary factor determining the property's value is its location, and the quality of the environment is an extra value that gets into the property's sales price. As the direct market is absent for environmental goods, it is better to impute value to them to see how the market and its price relate to a specific ecological quality. (Irfan & Pant, 2007). The dearth of good environmental quality can significantly affect house prices. Open disposal sites of waste in or near human habitats are vital concerns affecting societies. The study has looked into open solid waste disposal and its effect on residential property prices in Alappuzha town in Kerala.

Alappuzha, known as 'Venice of the East', was Kerala's first planned town or municipality formed in 1919. The formation of the town was the work of Diwan Raja Kesava Das. The Alappuzha municipality is full of artificial canals and bridges designed for promoting trade by water and road. The town spread over 46.77 sq km consists of 50 wards. The solid waste generated will reflect an area's consumption patterns, sanitation, and waste management issues. The per-day amount of solid waste generated in the town is around 80 tons. The municipality collects approximately 40 tonnes, and the rest are left uncollected. Generally, there is no segregation of the wastes before disposal, and so the waste is mixed and disposed of. The waste is dumped in an open dump at Sarvodaya Puram in Mararikulam South Panchayat with 14.26 acres and is around 3Km from the town. For the analysis, the focus was on the open dumpsite. A pre-tested questionnaire was used for the survey, and the unit of analysis was the individual household. The sample size was fifty households in and around the dumpsite taken at random. The researcher analyzed the respondents' opinions about the residential land value near the dumpsite.

FINDINGS AND DISCUSSION

An overwhelming 87.8% agreed that the land value has decreased due to pollution from the dumpsite and solid waste pollution in general, and around 68% felt that land value would go up in the absence of such issues. It validates the proposition that land value depends on the quality of the environment. Interestingly, about 49.1% of the respondents were ready to relocate to a place with less pollution, while 50.9% were not ready to relocate. It shows that many are still attached to their land and expect a solution rather than moving out. Asked about land value in terms of price/cent,

approximately 74%, opined that it is above 2 lakh rupees. When asked about water quality, about 86.7% thought it has deteriorated over the years and blamed mainly solid waste pollution and other types of pollution as reasons. The majority depends on water supplied by the municipality. Another issue created by solid waste dumping is breeding mosquitoes and flies, and it was ranked one in the list of disamenity.

CONCLUSIONS

The findings showed that an open dumpsite in the proximity to a residential area reduces the property's price thereby bringing down economic value. Local governments are responsible for providing an efficient solid waste disposal mechanism with limited financial, social, and environmental impact. The ever-increasing population and increasing electronic and medical waste complicate the urban solid waste management system. The local bodies lack the finance, technical support, and engineering skills to tackle the issue. There is no doubt that local bodies should dispose of solid waste in sanitary landfills. Government can try Public-private initiatives for developing a comprehensive urban solid waste management policy. Regular comprehensive risk perception studies will make the authorities aware of the situation and help initiate mitigation steps.

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